

OLDEST BEE PAPER
IN AMERICA

THE WEEKLY

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BEE JOURNAL

DEVOTED TO THE INTERESTS OF HONEY PRODUCERS.

ESTABLISHED IN
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Chicago, Ill., June 18, 1884.

VOL. XX.—No. 25.

THE WEEKLY EDITION OF

THE AMERICAN
BEE JOURNAL

PUBLISHED BY

THOMAS G. NEWMAN,
EDITOR AND PROPRIETOR.

925 WEST MADISON ST., CHICAGO, ILL.

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THOMAS G. NEWMAN,

925 West Madison Street, Chicago, Ill.

Topics Presented in this Number.

A Great Loss.....	395
Apiaries near Highways.....	396
Bees and Flowers.....	391
Clipping Queens' Wings.....	393
Convention Hand-Book.....	397
Correspondence.....	390
Cure for Foul Brood.....	388
Damaging Floods in Texas.....	395
Editorial Items.....	387, 388, 389
Establishing Apiaries.....	396
Fastening Foundation in Sections.....	395
Good Results in Wintering.....	395
Good Work.....	395
Hail—Bloom without Nectar.....	390
Haldimand, Ont., Convention.....	391
Handling and Quieting Bees.....	387
Honey and Beeswax Market.....	396
Honey Dew.....	395
Honey from White Mustard.....	395
How to Grow Fine Celery.....	387
Increasing Colonies by Division.....	394
Local Convention Directory.....	395
Near-Sighted.....	389
Priority of Location.....	392
Reversible Frames Once More.....	391
Selections from our Letter Box.....	395
Special Notices.....	397
Statistical Report.....	387
The Fertilization of Flowers.....	389
The Honey Flora of Arkansas.....	393
Those Trembling Bees.....	395
What and How.....	395
Will County, Ill., Convention.....	394
Wintering Bees on Summer Stands.....	393

The Southwestern Iowa Bee-keepers' Association, will meet in Corning, June 28, 1884.

W. J. OLIVER, Sec.

We now club the *British Bee Journal* and our Monthly for \$2.50, or it and the Weekly for \$3.50.

Letters for publication must be written on a separate piece of paper from items of business. *

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Binder for Weekly Bee Journal.....	2 75.. 2 50
Apiary Register for 200 colonies.....	3 50.. 3 25
Dzierzon's New Bee Book (cloth).....	4 00.. 3 00
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Honey as Food & Medicine, 100 Copies.....	4 50.. 4 25
Blessed Bees.....	2 75.. 2 50
King's Text Book.....	3 00.. 2 75
The Weekly Bee Journal one year and and Gleanings in Bee-Culture (A.L. Root).....	3 00.. 2 75
Bee-Keepers' Magazine (A.J. King).....	3 00.. 2 75
Bee-Keepers' Guide (A.G. Hill).....	2 50.. 2 25
Kansas Bee-Keeper.....	3 00.. 2 75
The Apiculturist, (Silas M. Locke).....	3 00.. 2 75
New Eng. Apiarian, (W.W. Merrill).....	2 75.. 2 50
British Bee Journal.....	3 75.. 3 50
The 8 above-named papers.....	9 00.. 7 75

The *Monthly Bee Journal* and any of the above, \$1 less than the figures in the last column.

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A Canadian wishes us to state in the *BEE JOURNAL*, whether we take Canadian money for subscription or books. We do; and for fractions of a dollar, Canadian postage stamps may be sent.

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The Apiary Register, by THOMAS G. NEWMAN.—A Record and Account Book for the Apiary, devoting 2 pages to each colony, ruled and printed, and is so arranged that a mere glance will give its complete history. Strongly bound in full leather. Price, for 50 colonies, \$1.00; for 100 colonies, \$1.25; for 200 colonies, \$1.50.

Honey as Food and Medicine, by THOMAS G. NEWMAN.—It gives the various uses of Honey as Food; recipes for making Honey Cakes, Cookies, Puddings, Foam, Wines, etc. Also, Honey as Medicine, with many valuable recipes. It is intended for consumers, and should be liberally scattered to help in creating a demand for honey. Price, for either the English or German edition, 5 cents—one dozen, 40 cents—100 for \$2.50—500 for \$10.00—1,000 for \$15.00.—If 100 or more are ordered, we will print the bee-keeper's card (free of cost) on the cover.

Bee-Keepers' Convention Hand Book, by THOMAS G. NEWMAN.—It contains a simple Manual of Parliamentary Law and Rules of Order for the guidance of officers and members of Local Conventions—Model Constitution and By-Laws for a Local Society—Programme for a Convention, with Subjects for discussion—List of Premium for Fairs, etc. Bound in cloth, and suitable for the pocket. Price, 50 cents.

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Emerson Binders, made especially for the BEE JOURNAL, and lettered in gold on the back. 75c. for the Weekly; or for the Monthly, 50c. They cannot be sent by mail to Canada.

Constitution and By-Laws, for local Associations, \$2 per 100. The name of the Association printed in the blanks 50c. extra.

Ribbon Badges, for bee-keepers, on which are printed a large bee in gold, 10c. each, or \$8 per 100.

Weekly Bee Journal,

DEVOTED TO THE INTERESTS OF THE PRODUCERS OF HONEY.

VOL. XX.

CHICAGO, ILL., JUNE 18, 1884.

No. 25.

THE AMERICAN BEE JOURNAL

Published every Wednesday, by

THOMAS G. NEWMAN,
EDITOR AND PROPRIETOR.

Handling and Quieting Bees.

A Lanarkshire bee-keeper, in the *London Journal of Horticulture*, gives the following on handling and quieting bees, the remedies, when they are irritated, and the best treatment of stings:

When bees are accustomed to people and domesticated animals near the apiary, they seldom offer an attack unless through some provocation, which they are sure to resent. Incautious manipulation, turning the soil, and pulling weeds or vegetables; certain odors, such as musk and other scents; vinegar and smoke, and allowing bees to have access to honey-comb or robbing other hives, are a few of the many things that irritate them, all of which should be guarded against. One bee irritated and using its sting may set the whole apiary in a frantic and vicious state, which may last for weeks ere they be calmed down. It is possible that bees possess a sense that we are ignorant of. One thing is certain, when people of a nervous temperament manipulate bees there is something that excites them. We can avoid irritating bees in many ways, such as by leaving the apiary for a time when they are inclined to sting, or disturbing them as mentioned above; but there are times when all danger has to be faced, and caution with firmness is necessary, and veils, if stings are dreaded. When manipulating, I seldom use either a veil or smoke, carbolic acid being so much superior to the latter that it enables me to manipulate with safety, leaving the bees in a passive state after it. The hive also is the better able to resist foul brood, while moths do not harbor where it has been used, neither is the honey tainted nor the larvae affected by its use, as is the case when smoke is used. Carbolic acid is useful to prevent robbers attacking another colony. The robbing hive is well smeared at the entrance; this diverts the bees from making further inroads on its weaker neighbors. When commencing to manip-

ulate, if the bees are vicious or suspected to be so, I smear the alighting-board with some acid, then uncover the hive. I then smear the tops of the frames with the acid, and having a wing or feather also saturated so that I may dislodge the bees from any part by its use, placing it near the bees, causing them to retreat to or from any part I may choose. When this is done, the bees remain quiet, and do not crowd over the frames nor attempt to sting as they do when smoke is used.

There are many applications and nostrums recommended for stings, none of them being effectual as a cure, for the very simple reason that the poison has impregnated the system before the alkali can be applied and reach the acid to neutralize it. The best remedy I ever found was to apply heat by steam or water to the patient to cause a free perspiration, and to give a little sal volatile; but this latter ought to be prescribed by the medical man. Not a moment should be lost to bring on a free perspiration, and every means resorted to that will accomplish that end.

By the Lakeview, Mich., *Enterprise*, we notice that Mr. S. J. Youngman expects to receive 125 colonies of bees by rail from Louisiana to keep on shares until next September. The increase is to be limited to one swarm from each colony; Mr. Y. has all the increase and one-half of the honey for his share. The bees will be 5 days or more on the road.

We have received the Catalogue of High-Class Poultry and Fancy Dogs of Geo. H. Pugsley, Brantford, Ontario, Canada. It contains 68 nicely illustrated pages.

How to Grow fine Celery.—A new method, by Mrs. H. M. Crider, York, Pa. A 25-cent pamphlet, showing how to grow fine celery, according to a theory deduced from a study of the natural habits of the plant, and well attested by several years of experience. The importance of celery as an article of diet, and especially its value as a specific for nervous diseases, makes its successful culture of the first importance; and the method

herein given will enable any one to have it in perfection in his garden.

Statistical Report.

Pres. McCagg, of the Eastern Iowa and Western Illinois Bee-Keepers' Association, gives the following as all the reports received up to May 25, 1884. Some 15 or 20 members had not reported at that time:

NAMES.	No. in Colonies in Fall, 1883.	No. Wintered on Summer stands.	No. in Cellar of Bee-House.	Lost.	Weak.	Good, May 10, 1884.
J. B. Lindie	207	207	18	9	179	1
J. C. Yocum	23	23	20	2	22	1
Wm. Riggs	19	19	5	6	16	2
J. I. Swim	48	31	19	20	12	3
I. Hall	11	6	11	3	2	8
J. E. Sutherland	8	8	3	2	3	3
D. Moore	8	8	3	2	3	3
T. W. Livingston	134	134	34	10	90	9
C. H. Dibbern & Son	200	50	150	37	20	143
J. V. Caldwell	87	5	82	17	70	70
J. L. Newberry	23	17	6	2	9	14
E. E. Wright	234	234	62	22	150	150
E. Mead	13	13	5	18	100	8
R. Murphy	123	30	5	18	100	8
Wm. Hurston	30	30	10	20	20	6
W. C. Freeman	6	6	6	1	3	3
H. W. Gilbert	4	4	4	1	3	3
Wm. Goose	28	28	11	4	24	4
O. H. Carpenter	11	11	11	4	20	4
Paul Stahmaier	39	30	6	4	29	4
Philip Barth	2	2	2	2	2	2
J. B. Dopp	16	5	11	4	12	12
Philip Earhart	41	41	4	3	24	24
Joshua Wadsworth	38	28	9	3	14	14
Wm. Gromell	20	20	3	3	14	14
G. W. Ashton	3	3	3	1	10	10
John Madden	11	11	1	1	7	7
G. L. Gast	150	80	70	25	50	75
Miss Kate E. Case	5	5	5	1	4	4
J. D. Adams	35	1	34	13	10	12
T. J. Davis	56	56	75	30	62	62
H. O. Stacy	54	54	42	2	12	12
James Johnston	54	54	42	2	10	10
Ira Brashears	1	1	1	1	1	1
C. G. Plummer	5	5	4	1	1	1
J. C. Hinberg	7	7	7	1	1	1
A. Webb	20	20	10	5	2	6
C. Fringall	19	19	19	5	2	6
I. V. McCagg	34	14	20	5	1	28
J. J. Nagle	152	152	22	30	100	100
C. Greiner	18	18	12	2	4	4
H. G. Sears	230	230	5	5	220	220
B. F. Little	107	3	104	21	10	76
Adam Little	4	4	1	1	3	3
Phillip Osborn	150	90	60	15	100	100
L. H. Scudder	163	163	33	130	130	130
Totals	2666	1222	1312	539	290	1875

The increase in the number of colonies is not over 5 per cent. in the past 2 years, and the increase in the consumption of honey has been at least 20 per cent. in the past 2 years; so you can see that honey must bring a good price. Weak colonies cannot be relied upon as honey-gatherers. This year's crop of honey, if large, should bring not less than 15 to 20 cents. Do not be deceived by large ideas and big yields at your neighbor's; we will not be able to supply the demand

Cure for Foul Brood.

T. W. Cowan, Esq., of London, England, lately visited the apiary of Mons. Ed. Bertrand, located at Allevays, in the Alps, Switzerland. Mons. Bertrand claims to have successfully cured "foul brood" there, and Mr. T. W. Cowan details the way in which it was done, in the following article from the *British Bee Journal*:

Allevays is situated at a height of 2112 feet, and is distant about six miles from Nyon, on the road to St. Cergues, on the Jura mountains. The scenery was very picturesque, and as we rose higher and higher, first one peak and then another of the Mont Blanc range came in view. On our arrival at Allevays, we were met by two English gentlemen who had been attracted thither by seeing the view of the apiary which appeared some time since in the *British Bee Journal*. This apiary, as will be seen by referring to the accompanying picture, is situated

vides the apiary, Layens hives being on the left, and Dadant hives on the right, so that by working the two systems together a comparison might be made; there being about 50 hives in the enclosure. In front of the apiary are small fir-trees destined to attract the swarms, and borders containing experimental plantations of honey-yielding plants, such as scrophularia, yellow and white melilot, borage, phacelia, alsike clover, and others.

This is a good neighborhood for the bees, for in the spring they find pollen on the willows, maples, nuts, and colt's-foot, and honey on the maples and wild cherry trees; later, on the cultivated esparcet, wild sage, and the flowers of the pastures. After the grass is mown, there are the lime-trees, raspberries, wild thyme, golden-rod, astrantia, and others. This apiary is one of the few which yield a regular and constant return; it shows that its owner is a thoroughly practical as well as scientific apiarist.

M. Bertrand is editor of the *Bulletin d'Apiculture pour la Suisse Romande*,

particular interest to me, having some years ago had to battle with this disease myself, and knowing that it was only by perseverance and great care that I cured my bees of it, I was anxious to know how Mr. Bertrand had proceeded. When I cured my bees, fumigation with salicylic acid according to "Hilbert's" method was not known, and it was much more trouble than now. Experiments made on foul-broody colonies during the last two years, however, convinced me that fumigation, if properly done, was the simpler process. I was not satisfied with my way of fumigating, therefore I was curious to see how M. Bertrand proceeded. His method is so simple, that for the benefit of those whose bees have foul brood, I will give a description of it, and in doing so will give the French weights so that no mistake should be made. M. Bertrand told me that since the establishment of the apiary, he had had foul brood in some of his hives, these at first he burned, but being induced to try to cure them, he persevered and never allowed the disease to get to the worst stage, when a cure would be more difficult. The hives were constantly examined, and if the slightest trace of dead brood was detected, they were at once operated upon. Most of the colonies in the apiary were now perfectly healthy; there was one, however, that had only recently been cured—it is the one standing just behind the gentleman in the wide-awake hat in the engraving, and M. Bertrand and M. Auberson proceeded to operate upon this one in my presence. For fumigating, he has had constructed a lamp, which is cylindrical in form, 6½ inches in diameter, and with an elbow at the top, ending in an opening 5 inches by 1¼ inches. The total height of lamp with elbow being 11 inches. Inside the cylinder is placed a spirit-lamp, and above this is a small tin dish about 3½ inches above the wick of the lamp. The hive is not removed from its stand, but is raised up at the back off its floor-board by means of blocks of wood, and wedges are inserted at the sides, so that all the space is closed except enough to admit the nozzle of the fumigator. One gramme of salicylic acid is placed in the dish, and the flame regulated so that the acid is gently evaporated.

Too much flame would cause it to boil over and waste, not enough would not even melt it, so the right amount can be found out by experiment. The nozzle of the fumigator in operation is now inserted in the opening at the bottom, and the corners of the quilt turned up so as to allow the vapor of the acid to circulate freely. A few minutes after the acid had all evaporated, the hive was examined and the bees did not seem to be in the least inconvenienced by the fumigation. M. Bertrand said that neither brood nor worker bees were hurt, but he was not sure whether or not the queens suffered sometimes as he had lost some. Hilbert says that each hive should be fumigated every six days, four fumigations being sufficient; but M. Bertrand has continued longer, so as to be certain of a cure.



Mons. Bertrand's Apiary, in the Swiss Alps.

on the borders of the forest, and is enclosed in the American style. The hives are detached, each being on its own stand, the floor-boards close to the ground, similar to the hives used by me. They are well sheltered from the winds by the forest which extends on three sides. The hives are about 6 feet apart, in rows, the distance between each row being about 10 feet. In front of the hives, here and there, are planted shrubs which serve as guides to the bees to mark their homes. In the centre of the apiary is seen a shed, which is used for manipulation, and as a store and extracting room. It contains hives, frames, a cupboard for combs, and even in the ridge there is a bed which has been useful to its owner when he has been kept late at work with his bees.

From the windows there is a splendid panorama of Lake Leman and the Alps. These windows are of peculiar construction, being made to reverse on pivots at the top and bottom, so that by merely turning them any bees that had gotten inside the shed and flown on the glass, could be turned out without any difficulty. A wide path di-

which is, without exception, the best and most progressive journal in the French language, devoted to modern bee-keeping in movable-comb hives. Being such a master and authority, it was natural to expect that his apiary would be worth visiting; nor was I disappointed, for here was really a model apiary in every sense of the word; perfect order reigned everywhere, there was a place for everything, and everything was in its place.

We proceeded to examine some of the colonies, and found them well stocked with bees and remarkably strong.

M. Bertrand has a valuable and able assistant in the person of M. C. Auberson, who is a schoolmaster at St. Cergues, three-quarters of an hour's walk above Allevays, who, in addition to looking after his own bees, undertook to assist M. Bertrand at a time when they were stricken by foul brood, and when constant supervision was necessary to stamp out the disease, M. Bertrand's residence being at too great a distance from Allevays to give the bees necessary attention. As the subject of foul brood was one of par-

The operations should be performed in the morning or in the evening when all the bees are at home. Besides the fumigations, the entrance, alighting-board, and the ground round the hive, and any portion not reached by the vapor, should be washed with a solution of salicylic acid. This is done with an ordinary syringe. The foul-broody colonies receive every other evening one-sixth of a litre of syrup containing 30 to 50 drops of Hilbert's solution No. 1 (8 grammes or cubic centimetres of pure alcohol to 1 gramme of salicylic acid).

A foul-broody hive should be fumigated previous to its being opened, and all diseased brood cut out and thrown away, as few frames left as the bees can conveniently occupy, and if possible the bees should be forced to build new combs. All the hives in the apiary should be fed at least once a week with a syrup containing acid, while the disease lasts. After this treatment M. Bertrand found that at about the end of six weeks all trace of the disease had disappeared, and the convalescent colonies gave a good harvest of honey. I was glad to see that in all his operations M. Bertrand took the same precautions I have always insisted upon, and to the neglect of which so many have failed to cure their colonies. After a hive had been examined, everything used, as well as the hands, were washed in water containing 50 drops of solution No. 1 in 50 grammes of tepid rain water. A special dress made of linen, which can be easily washed, is used in operating; and the great care taken is shown by the fact that M. Auberson, although constantly manipulating amongst the diseased colonies, had not introduced the disease into his own apiary. These operations are very simple, but not one of the precautions taken can be dispensed with. I prefer to scald hives that contained foul brood, and I have my hives constructed with a view to this; but M. Bertrand pointed out that it would be very inconvenient to do so with such large hives as the Layens, and I also prefer to give my bees salicylic acid in their food whenever they have any. It is now several years since I cured my bees of foul brood, but they have always been fed on syrup containing salicylic acid in the proportions set forth in the *British Bee-Keepers' Guide Book*, and, although situated in an infected area, I attribute the absence of disease in my apiary to the constant use of salicylic acid in the food.

Near-Sighted.—A Lanarkshire bee-keeper writing on the question of the near-sightedness of queens, in the *London Journal of Horticulture* remarks as follows: "Some people are of the opinion that bees are not near-sighted—i. e., cannot discern an object near them. I cannot endorse that statement, as I have repeatedly observed when bees were feeding under a glass cover, they started when an object was made to pass over or close to them."

The Fertilization of Flowers.

Mr. James Reid, a nephew of Mr. Robt. Reid, Collector of Customs at London, Ont., who is now a prominent resident of Paisley, Scotland, has devoted much attention to botanical subjects, and lately delivered a very interesting lecture on "The Fertilization of Flowers," before the Botanical Section of the Philosophical Society, from which we make a few extracts:

We all know, said Mr. Reid, that most flowers have their stamens and pistil situated together in the same flower; but we likewise know that many species bear those organs on separate flowers, although both kinds of flowers are found growing together on the same plant, whilst still other plants bear their stamens and pistil not merely in separate flowers, but in flowers on perfectly distinct plants.

It is evident that, when these organs are each situated on separate flowers, fertilization can ensue only when pollen from the stamens of one flower is carried by some means or other to the stigma of another flower of the same species. In the most of cases this is effected by insects, in a few instances by birds, and in others by the wind. The Scotch fir affords a well-known example of wind-fertilization. Doubtless the enormous quantity of pollen shed by this species is meant to make up for the great waste incidental to its method of transmission. Meanwhile we will confine our attention to plants bearing hermaphrodite flowers.

It was long supposed—indeed, until quite recently, and, I may almost say, within the lifetime of the youngest members of our society, it was the almost universal belief amongst botanists—that all flowers of this kind were self-fertilizing; but it is now quite well known that very many flowers, although hermaphrodite in structure, are unisexual in function. Some of our most eminent botanists are of the opinion that cross-fertilization is the rule with many flowers which yet have the power of self-fertilization; and experiment has shown that when one flower is fertilized by pollen from another flower, the resulting seeds give rise to healthier and more vigorous plants than usually spring from seeds of self-fertilized flowers. However, we shall see as we proceed, that, with some hermaphrodite flowers, self-fertilization is physically impossible, and that in such cases the most beautiful arrangements exist for ensuring cross-fertilization.

In the remarks which I have to make, I will draw my illustrations from a few wild flowers which grow freely around Paisley, and I will, for two reasons, take up no more than three or four species—first, because it is impossible, within proper limits, to deal satisfactorily with many flowers; and next, because the nature of the principle which we are considering, can be as well illustrated by three or four as by a larger number. I will

also restrict myself to plants which I have for a number of years grown in my own garden, and thus have had opportunities of seeing confirmation of certain phenomena which have engaged the attention of botanists of acknowledged reputation. In many hermaphrodite flowers, the stamens come to maturity at one time and the pistil at another; and, of course, in such cases self-fertilization cannot take place.

Dichogamy is a technical term to indicate that the two sets of organs on the same flower are not developed simultaneously, but it does not tell us which of them ripens first. However, in flowers of this kind, the stamens generally arrive at maturity first; and, when this is the case, the flowers are said to be protandrous or proterandrous. But in many cases where both sets of organs are developed at the same time, insect agency is still essential to successful fertilization. We have a familiar instance of this in the common red clover (*Trifolium pratense*). Some naturalists affirm that the common red clover can be fertilized only through the agency of one of the common humble-bees; others are disposed to question the soundness of this opinion, although all appear to agree that insect agency is quite essential to its successful fertilization.

In the course of the late Darwin's numerous and valuable experiments, he found that 100 heads of red clover, when grown in the open air in the usual way, produced 2,700 seeds, but the same number of heads, when protected from bees, did not produce so much as a single seed. I remember reading in the newspapers, some 12 or 14 years ago, an account of the efforts of the Acclimatization Society, of New Zealand, to introduce red clover into that colony; but, although the seeds sent from this country yielded a fair crop of good plants, yet the plants thus grown totally failed to reproduce others "after their kind," and the failure was described to the absence of wild bees.

Like the red clover, the fertilization of the pansy is likewise due to the agency of insects, chiefly to the visits of one or more of the wild bees. As the pansy is believed to be one of the most highly specialized flowers not only in the British flora, but in the whole list of phanerogamous plants, it is very well worth the while of any one at all interested in the subject to take some pains to understand its structure and the contrivances which it exhibits to insure its reproduction from seed. The peduncle of the pansy, just below the flower, suddenly curves round to a position at right angles to its ascending axis, thus throwing the flower forward and downward. Look into the "eye" of the flower, and you will notice the round knob-like stigma, of a yellowish green color, situated almost right in the throat, so to speak, of the tube. This globular organ you will likewise observe, is pressed closely down upon the front petal. Now, look beyond the stigma and in towards the very heart of the flower, and you will there

see something having a more or less orange tint. This orange color proceeds from the broad and membranous prolongations of the connectives. I may remind some of you that the connective is what might be called the mid-rib of the anther. It usually terminates at the tip of the anther, but it is sometimes produced beyond it, as it is in this case, and very strikingly so in *Paris quadrifolia*. An anther with prolonged connective is analogous to a leaf whose mid-rib is produced beyond the blade. The stamens of the pansy have very short filaments—much shorter than their anthers. The ovary is conical in form, and the anthers are arranged completely round it, their dehiscing sides inwards, facing the pistil. The prolongations of the connectives thus take up a position near the upper part of the ovary, their tips meeting at the apex of the cone, but in such a way as to inclose a hollow space, with the ovary in the centre. Each of the two lower or front stamens throws out from the base of the connective a long spur. These staminal spurs project into the spur of the lower petal, and penetrates its whole length. The honey-glands are situated in the somewhat thickened ends of the staminal spurs, whence it drops to the bottom of the spur of the corolla, where it remains until sought for by some insect whose trunk is long enough to reach it.

I will not weary you with these structural details further than to mention that the stigma, which seems to guard the entrance to the honey-chamber, is quite hollow, and has a remarkable round opening in front. Below this opening, and close in contact with the petal, is a recurved lip or valve. There is a bend at what appears to be a weak part of the style. Having examined the flower thus carefully, we are now in a position to watch the effect of a bee visiting the pansy in search of honey. The insect alights on the broad front petal, thrusts its trunk under the stigma and downwards to the bottom of the spur of the corolla, where it can either sip what has trickled into the tube or take the honey directly from the secreting glands of the staminal spurs. Now, observe what happens. If the anthers are mature, or have been so for a short time, the pollen will, partly at least, have dropped through the slits between the anthers into the spur of the corolla, where it will be caught by the thick brush of hairs which seem to be placed there for this special purpose. The proboscis of the bee, on its way to the honey, must pass completely through this brush of hairs, and is sure to get dusted over with pollen; but, in withdrawing itself from the tube, the insect comes against the recurved lip of the stigma, which is consequently drawn forward and pressed across the orifice, thus effectively preventing any of the pollen from entering the cavity. Should the bee visit the flower just at the time when the anthers have ripened, but before the pollen has been shed, then when it touches the stigma, the style bends at

the weak part, causing a movement of the ovary. This movement disturbs the encircling anthers; the hollow box opens, and the pollen, set free by the agitation, drops upon the bee, and is carried off by it to the next flower it alights upon. In following the bee to this other flower, we will see that in thrusting its proboscis beneath the stigma, it has to pass the open orifice, against which it must press with some degree of force. The pollen which it has brought from the first flower gets cleaned off its trunk, some of which is almost certain to enter the hollow chamber, thus securing cross-fertilization.



For the American Bee Journal.

Hail—Bloom without Nectar.

ALLEN PRINGLE.

On May 18th ult. a violent hail storm passed over this section, and all the bees that were out were killed. As the weather during the preceding week had been unfavorable, confining the bees to their hives the most of the time, they came out freely that fatal afternoon, the weather being fine. The hail storm came suddenly, without warning, and laid the busy workers low in the dust. They could be seen after the storm, scattered over the fields close to the earth, dead; with their pellets of pollen still adhering to them. Aside from considerations of loss, the sight was one to excite feelings of commiseration for the industrious little heroes, and Shakespeare's couplet was forcibly suggested:

"Blow, wind! come, wrack!
At least we'll die with harness on our back."

The colonies which before this were in fine condition, were all more or less depleted; and some of them with not bees enough left to care for the brood which was plentiful. This unfortunate state of things necessitated a general balancing of forces throughout the apiary, and some "doubling up." Had I not promptly attended to this, the field loss, great as it was, would in all probability have been supplemented by a still greater loss of brood—possibly ending in "foul brood."

Such untoward and unexpected exigencies as these are the ones which test the apiarist. He is thus put to his "wits' ends," and at such times, unless he has principles to fall back upon, he will find himself at sea.

But the hail storm was not all. During two or three days of the past week, it was freezing cold, with high cold winds, and ice forming at nights. And to complete the chapter of adverse circumstances, the fruit bloom has come, and is about over, but has yielded no honey. This, to me, is anomalous. So far, in all my experience, I have never observed an abund-

ant fruit bloom without nectar. I have had to feed my bees all through it, or they would undoubtedly have starved.

The absence of nectar in the bloom is, no doubt, due principally to the low temperature and the drying winds of last week. In utter perversity the weather this spring has been the worthy counterpart of that of last spring.

Ever since the bees were put out (about the middle of April), it has been a continual conflict with adverse (one would be pardoned for saying ill-naturedly, perverse) natural conditions. However, I suppose our only salvation from these meteorological ills (and chills) is to bring science and common-sense to bear, resolutely meet them, and parry them.

A part of my bees were wintered on their summer stands protected, and part of them in the cellar. I lost one of those which were outside, and one of those inside, after they were put out. All the others came through in excellent condition.

The one outside starved, though it had about 30 pounds of honey when I prepared it for winter. I account for the singular fact in this way. It was so well prepared, and so snug under the snow, and being one of the largest and best colonies, it kept up breeding all winter, until it had by March 1, consumed all its stores. Its *post-mortem* condition evidenced this.

Notwithstanding the very unfavorable spring, my bees are now in excellent condition, with the exception of 2 or 3 colonies. But they have no honey, nor are they gathering any to speak of. I am still feeding them, and will, no doubt, have to continue it until the white-clover bloom appears.

Many bees in this section died during the winter and spring; mostly, however, among the old-fashioned, non-scientific bee-keepers. One of this class, a neighbor (he does not take the BEE JOURNAL), said to Mrs. P. lately: "How is it that Mr. Pringle's bees live through the winter and spring and ours die?" The reply was that it was probably owing to the fact that the former knew how to care for his bees.

Now I do not suppose that the most careful and scientific apiarist can permanently escape winter and spring losses; but his average loss will be small compared with those of the careless and blundering bee-keeper. Bee-culture wants no sluggards or dullards. But the losses and disappointments consequent upon these traits, will have at least one good effect; viz., that of weeding out the careless and incompetent from our ranks. Not that the inevitable mistakes and losses of the earnest beginner determined to learn ought to be condemned—by no means; but the bee "dolt" who is too dull to comprehend scientific apiculture, or too negligent and careless to look after his industrious little exemplars, ought to be "weeded out;" and the Darwinian law of the "survival of the fittest" will assuredly do it.

Selby, Ont., June 2, 1884.

For the American Bee Journal.

Haldimand, Ontario, Convention.

The Haldimand, Ontario, bee-keepers met at Hagersville on Friday, May 30; 25 members being present.

The minutes of the previous meeting were read and adopted. The first subject discussed was "The Best Race of Bees."

The chairman, Mr. R. Buckley, advocated the Italians as the best race of bees.

Mr. Kindree had not much experience with any except brown bees and Italians; but he preferred the Italians, or a cross between them and the brown bees.

Mr. Smith preferred the Italians for handling, but thinks that hybrids are the best honey producers.

Mr. Abbott said he did not know anything about the Italians; he had good success with the German bees. He noticed that some of his colonies were becoming hybridized by meeting with Italian drones, and that they were powerful workers.

Mr. Williamson said that anybody who had any experience in keeping bees would never say that the brown bee is better than the Italian; but he thought the hybrids were better than either.

Mr. Armstrong had kept both brown and Italian bees for some years; but he did not want any brown bees, or hybrids either, after this. The Italians were better workers and easier to handle; they work earlier and later, and defend themselves from robbers and moths far better than the brown bees. He read extracts from Prof. Cook's and A. I. Root's bee-books in favor of the Italian bee.

The Secretary spoke in favor of the Holy Land bees, or a cross between them and the Italians. His Syrian bees were better workers, and quite as gentle as Italians. They winter better, and build up more rapidly in the spring. He believes "the coming bee" will be a cross between the Syrian and the Italian.

"PUTTING UP HONEY FOR MARKET."

Mr. Williamson did not produce more honey than he could sell in his home market; but he thought that the small sections sold more readily. Extracted honey put up in glass jars sold about as well as section honey.

Mr. Armstrong put most of his honey in glass jars, and only lost two in shipment. When he sold honey in large quantities, he put it up in half-barrels. Comb honey should be in one-pound or two-pound sections.

The Chairman said he thought the smaller the package the more readily it could be disposed of.

Mr. Smith had tried both tins and glass jars, and preferred the glass for home trade.

The Secretary thought it would not make much difference how it was put up, after the people had tried the honey. He had used both tins and glass, and preferred the tin, on account of its cheapness and safety in handling.

"THE BEST METHOD OF INCREASE."

Mr. Smith preferred natural swarming for the reason that the bees lost no time, but went to work at once.

Mr. Kindree also preferred natural swarming for the same reason. In reply to Mr. Hull, he explained how to divide them.

The Chairman preferred dividing, and said that all good bee-keepers practiced that method; but care must be taken not to divide too much. It takes less time, and there is less danger of losing swarms.

Mr. Armstrong said if a man did not know anything about bees, he should not try to divide them, but allow the bees to manage for themselves. For himself he preferred dividing, as it was easier; but a laying queen should always be given to the new colony.

The following was reported by the members present, as the number lost during the winter: Fall count, 443; spring count, 353; loss, 90 colonies.

INTRODUCING A QUEEN TO A COLONY HAVING A FERTILE WORKER.

Mr. Kindree had not much experience in this line, but he once succeeded by putting a weak colony with a queen, into the fertile-worker colony.

Mr. Armstrong advocated breaking up the colony altogether, and giving the frames to other colonies.

The Secretary stated that he had succeeded in getting rid of a fertile worker by removing the hive to another part of the yard, shaking the bees off the frames, and then putting the hive back on its old stand. He then introduced a queen without any trouble.

E. C. CAMPBELL, Sec.

For the American Bee Journal.

Bees and Flowers.

CLARENCE M. WEED.

Every person at all acquainted with bees and bee-culture knows that without flowers bees could not exist; but it may be a new thought to some, at least of the younger readers of the BEE JOURNAL, that without bees flowers could not exist. It is proposed in a few short articles to give an idea of the mutual relations of bees and flowers, and of the views of eminent botanists in regard thereto. It will be seen that the subject is a much more interesting one than it would at first appear to be, and that for the beautiful tints and sweet fragrance of our most dearly loved flowers, we are indebted to the bee. Certainly it must be admitted that any bee-keeper who understands the philosophy of his calling, will make a more successful apiarist, as well as a broader and more cultured man.

Before discussing the subject proper, a knowledge of the structure of flowers is necessary. There are many flowers, which are not commonly called such, as those of the elm and ash, but these will be passed over and only those treated of which are of special interest to the bee-keeper. To illustrate flower structure, let us examine

an apple blossom: The first thing noticed is that there are five white, or pinkish-white flattened portions which form the most conspicuous part of the flower and clothe the tree in beauty. These are the petals. On the inside of the petals are a large number of small yellow stems surmounted by a cap of the same color; these are the stamens, and are a very essential part of the flower, because they contain the yellow powder called pollen. At the centre of the group of stamens is a greenish stem differing from the stamens in size and shape; this is the pistil, another essential part of the flower. The lower portions of the pistil is called the ovary, because it contains the ovules or young seeds. In order that these ovules may develop into seeds, a particle of the pollen from the stamens must fall upon top of the pistil and penetrate it by means of a microscopic "pollen tube." This is the process of fertilization. But if this is done by pollen from the same flower, the ovule will in most cases not develop at all, or if it does develop, it will be much less vigorous than if the pollen came from another flower of the same tree; or still better, of another tree. Here comes in the aid of the honey-bee; its function, as regards flowers, is to carry pollen from the stamens of one flower to fertilize the pistil of another.

In the apple, pear, peach, thorn, and many similar flowers, the process of fertilization is very simple. The bee lights upon the blossom, and in so doing some pollen is brushed upon its head and body, some of which will be rubbed on the pistil of the next flower visited in its eager search for the honey secreted at the base of the stamens.

Lansing, Mich.

For the American Bee Journal.

Reversible Frames Once More.

M. M. BALDRIDGE.

It does seem that "the woods are full of them," for Michigan has been heard from again. I now refer to some exceedingly funny remarks on page 233 of the BEE JOURNAL, concerning "reversible frames."

The writer says: "When we have a frame all fixed so that it will reverse, when we say the word, of what advantage is it over a frame that does not reverse?" My reply is, please read carefully and critically what has been said in the BEE JOURNAL, and elsewhere, on that side of the subject, and then you will see for yourself. Now, please do not ask the advocates of "reversible frames" to fill column after column of the bee-periodicals with matter that would be a mere repetition of what has been said, and thereby nauseate the intelligent reader.

"When the combs are full of sealed brood, perhaps it might help the young bees to gnaw out, if we reverse the combs." This is evidently intended for one of those "funny" remarks, and I introduce it here simply to give everybody a chance to smile who feels like it.

"We have seen honey so *thin* that to reverse the combs would be sure to give the bees a job of house-cleaning." The writer now touches lightly upon a matter of some importance—but is he sure that he has made a statement of *fact*? or is it simply fancy? We have a "strain" of bees in Illinois (and they are not hybrids either) that has a knack of filling a comb with honey when it lies upon its face, and making it stay in, too! But suppose honey is so *thin* that it will run out when the comb is simply reversed, will that do any harm? And may it not after all be an advantage? That is, may it not hasten the "ripening" of the honey, if the bees are compelled to move it to some other part of the hive? By-the-by, what is the reason those wonderful hybrid bees in Michigan cannot be *strained* just a trifle more, so that they will not gather honey so *thin* that it will run out by simply reversing the combs?

"I can see no advantage" in reversible frames, but this may be owing to my "thick-headedness." The writer has possibly "hit the nail on the head" this time! But great men are often troubled with that complaint. Even the late T. B. Miner, the compiler of "The Bee-Keepers' Manual," a work that had quite an extensive sale 25 years ago, was sadly afflicted with "thick-headedness;" so much so, in fact, that he could not see that movable-frame hives had any advantage over those provided simply with *top-bars*!

The same is true to-day with many concerning the use of a honey-board when made properly. How few there are, comparatively, who fully appreciate the advantages of the style of honey-board so ably advocated by Mr. Heddon. So the writer will please console himself with the thought that other great men are often so "thick-headed" that they cannot always comprehend important discoveries.

St. Charles, Ill.

For the American Bee Journal.

Priority of Location.

R. J. KENDALL.

Mr. Doolittle and Mr. Pond both attack this subject in the BEE JOURNAL for May 14. If I understand Mr. Heddon, he says just this: The man who begins to keep bees first in a locality, has priority of location—as a moral right. He then gives such beekeepers a plan whereby they can maintain their right, if an intruder will not listen to reason.

That the first settler has a moral right of priority of location, seems to me undoubted. The legal right is another thing. Mr. Doolittle does not appear to dispute the moral right; but Mr. Pond attempts to turn the issue by saying one man has as much right to enter another man's locality as he has to set up a store beside him. Legal right, yes; moral right, no. The cases are not exactly alike—communities increase in population, localities do not in honey-flowers.

As a lawyer, I am not a little surprised at Mr. Pond's taking up the position he does; for law in its principle goes dead against him. The whole tenor of the writings of Blackstone, Coke, Justinian, and the American law writers, when treating of the principles of tenures and titles, go to affirm that the first occupant has a right to the selected locality. Discovery and first occupancy are the very foundation of title. The principle is so plainly recognized by the American law of pre-emption, and also by the free ranges over the public domain in the West by cattle and sheep men that I wonder all the more at his position.

So far as the point at issue in this matter of location is concerned, there is no difference between cattle and sheep and bees; or if there is, it is in favor of the bees—they come home to roost."

Equity most certainly, if not actual law, would give the title to the first bee-keeper. Try it also by the rule of doing unto others as you would have others do to you, and see where this puts it.

Mr. Doolittle's contention appears to be thus: If Jones is a big property-owner near Kendall, who is a poor man keeping bees, that the big property-owner Jones can crowd Kendall out of the range by simply putting on his large range more colonies of bees than Kendall does on his.

Perhaps he can, and perhaps he cannot; and perhaps he will get so disgusted in doing it that he will eventually want to sell out to Kendall. Bear in mind these suppositions: Kendall is supposed to be an experienced bee-man, and up with the times; while Jones is not a bee-man at all, but seeing Kendall's success, wants to keep bees, and undertakes to crowd Kendall out. Kendall is supposed to have talked with Jones, represented to him that he (Kendall) has been in the business some time—it is his livelihood. To Jones it would be a mere adjunct, but both will be injured if Jones carries out his project.

Jones, however, says he does not care. The surrounding property is his, and the honey his also; he proposes to keep bees and collect it in self-defense. Kendall puts in more and more colonies. The average runs down in all the colonies, but knowing his business, Kendall keeps up the "racket" till he has his apiary as full as he can manage—there is a big lot of colonies, but the average is low, very low. Kendall knows just what he is doing; Jones does not. He has to buy hives, gets left more or less in doing so, and has to get bees. He gets stung, and mad, his swarms fly away, he loses or hurts his queens, gets the bees in "a deal of a temper" by his clumsy and awkward manipulations, and at their best, with scientific skilled treatment, they could only have secured Kendall's low average. But with Jones' ignorance, nervousness, and clumsiness, they have failed to get even that.

Do you not fancy, by the time he is through, Jones will be a pretty badly disgusted man, and feel like selling

out? Besides, while he is messing with the three, four or five hundred colonies with which he is going to beat Jones out, what will become of his farm or other business. It will take him all his time to handle his bees. Then again, how many years will it take him to build up his apiary; and how many years will he have to neglect his farm or other business. Is it likely he will neglect a better business for a poorer (to him) one? Scarcely; his only other way then would be to hire an experienced apiarist to manage his bees; and he would have to pay such a man a salary that would, I think, in addition to the cost of hives, bees, etc., amount to such a sum as would make Mr. Jones a pretty sick man on bees; and begin to think the game of driving out Kendall was not worth the candle burned to play it by.

No, no, Mr. Heddon has given us a valuable hint if we have to fight such a case—a hint that will enable an experienced bee-keeper with a small acreage, to win, over an experienced but envious landed-proprietor every time, I believe.

Mr. Doolittle's plan is to speak soft words to the big man; Mr. Heddon distinctly said the same. If the big man listens to the kindly words, all will be well in Mr. Heddon's case as well as in Mr. Doolittle's. But in case the big man says, "I don't care," and will not listen to reason—what then? (And this is the case Mr. Heddon supposes.) I presume Mr. Doolittle would move out or agree to work the big man's apiary on a salary; but Mr. Heddon would do neither, unless he was compelled to—an unlikely contingency—he would stop and fight it; and if there is any truth in the statement that "knowledge is power," the chances are, Mr. Heddon would come out ahead, and his big opponent would be the under dog in the fight.

Every reasonable man believes that quiet arbitrage is best; but the trouble is, every once in a while a big fellow comes along who will not listen to reason, but presumes on his size, and purposes to despoil you. In such a case you must do one of two things—give up or make a fight for it. If there is no chance of winning, and you cannot win, you have to suffer loss; but if you can see a chance to win, fight it; and I fancy it may be shown that your science, experience and knowledge will be more than a match for size and presumption. No, Mr. Doolittle's landed-proprietor would not be the "smarter" man, but the "smarting" one.

Austin, Texas.

The Iowa Central Bee-Keepers' Association will hold their next meeting on June 20, at Winterset, Iowa. A full attendance is expected.

J. E. PRYOR, Sec.

A. J. ADKINSON, Pres.

The Kentucky Bee-Keepers' Convention meets in Louisville, Ky., during the opening of the Exposition (day not fixed).

N. P. ALLEN, Sec.

For the American Bee Journal.

Clipping Queens' Wings.

W. N. HOWARD.

In Mr. Stewart's reply to my question, on page 344, he rightly infers that I meant the period of gestation by the word *foal*; and as he has asked a few questions in return, I will give what I deem a sensible view of the matter.

I know of no bee-keepers (or any one else) who treat their queens as Mr. S. describes, in comparing them to the mare with her legs cut off. To be sure the interior of a hive, as a general thing, is dark; and this is no violation of any of the natural laws as regards a bee-hive; but to make the comparison parallel, as he puts it, would be to cut the queen's legs off as well as clipping her wing.

A queen with her wing clipped is not deprived of any of her organs of locomotion, neither is it any incumbrance to the fulfillment of any duties that nature requires of her after she has mated with the drone, with the exception of flying with the swarm; and the assistance of man provides for this deficiency in a much more satisfactory manner than to let nature take its course. If the clipping of queens' wings is injurious, why does it not so prove itself?

Mr. G. M. Doolittle has for the past 13 years made a practice of clipping the wing of each of his queens (if I am correct), and he rears his own queens; yet he makes the best report of comb honey (length of honey flow taken into consideration) of any bee-keeper in the known world; and he is each year improving his bees by careful breeding.

In a certain sense all animal life is governed by the same universal law in some of its details; but certain details which could be applied with success to one part of the animal kingdom, would be disastrous if applied to other parts.

True, queens do sometimes fly from the combs while being handled, but it is generally caused by their being disturbed; but do they produce better bees or larger yields of honey than the colonies by their side whose queen has a clipped wing?

The fact that a mare may be worked to within 15 minutes of the birth of the colt, does not prove that the colt would not have been just as strong and vigorous if the mare had been allowed to roam at her own "sweet will" in the pasture.

Perhaps Mr. S. will say that a queen with a clipped wing is prevented from going where she might wish to, and yet she is not prevented from doing all the duty that nature intended her to perform in all parts of the hive.

I am aware, as Mr. S. says, that a scare or other mental excitement of a disagreeable nature, often makes strange and woeful impressions, etc.; but can Mr. S. present any evidence that a queen has a mind, and is endowed with mental faculties? If so, could not she be taught to perform

more duties than her instinct now prompts her to do? Why not educate her to share her domicile with other queens, to assist in the egg-laying duties, to care for the brood, and if needed lend a helping hand at honey gathering? And what a boom it would be to the queen-breeder if he could educate queens to allow queen-cells to remain undisturbed in the same hive until hatched.

In Mr. S.'s description of allowing the mare to enter the match, he has given no conditions that were not prompted and brought about by nature, and he simply allows her to follow her instincts as far as his judgment tells him it is good for her. But is such a course of treatment as he describes practiced by breeders of horses noted for speed? In compelling the queen to fly, he forces her into an act that her instinct tells her is not needed; and if it does her no harm, it certainly is of no benefit.

Again he says: "In the production of colts, bees or anything else that has life, the parents reproduce themselves, and neither the mental nor physical condition of the offspring at birth can in any way exceed the combined condition of the parents." Here his doctrine is not sound, as will be seen by the evidence of Dr. J. S. McAllister, page 264; and also Mr. Geo. E. Boggs, page 150.

That bees can be improved and bred up to a high standard of excellence there is no doubt; for it is being done by some of our best breeders; but the methods they employ are not tossing their queen-mothers up and teaching them habits of idleness and neglect of home duties.

Derby, Vt.

For the American Bee Journal.

The Honey Flora of Arkansas.

A. R. NISBET.

Clark county, Ark., is situated between the mountain and the swamp lands of Arkansas, and boasts of containing some soil as rich as can be found in the Southwest.

Red elm is the first to yield pollen, and it generally blooms about Feb. 1, and lasts one week. If the weather is propitious when it is in full bloom, the bees will gather pollen as well as at any time during the summer. Wild plum and peach bloom about March 5; and bees here generally get a good start in brood-rearing while the bloom continues. Cotton-wood and red-bud greets us in gorgeous robes of various hues about March 25, and bids us get our hives in readiness for the forth-coming swarms. They bloom for a week, and sometimes ten days, after which we have a scarcity of bloom until May.

Ratan is one of our best honey-producing plants. On May 5 is about its average time of beginning to bloom, and it lasts from 10 to 15 days. The honey gathered from it is of a beautiful rich color, and of excellent flavor. It compares favorably with that gathered from linden, but is not quite as bright. The holly opens a little later

than the ratan, but before the latter ceases to bloom; and together they make a honey-flow which is hard to excel.

We very often have a great deal of rain at that season of the year, and sometimes lose nearly all of the honey; but the fault is not in the bloom. At the close of this honey flow, I extract the honey from every comb in the apiary, which has honey enough to pay for the trouble. I do that to keep our nice honey separate from the chincapin honey, which begins to come in about that time.

The honey gathered from chincapin bloom is dark and very strong; and another extracting takes place when it is all gathered. This time I extract only from upper stories and outside combs of colonies in single-story hives.

We are now ready for the linden or basswood honey, and it is generally ready for us by June 10.

I will probably say something in the future about our summer and fall flowers. I would like to meet all the practical Arkansas bee-keepers at our State Fair next fall; also as many from other States as will come. Let us meet and organize that convention we talked of last fall.

Dobyville, Ark.

Read at the Somerset, Me., Convention.

Wintering Bees on Summer Stands.

ISAAC HUTCHINS.

Previous to the last two years I had wintered my bees without loss, and it was by uniting all small colonies in the autumn and contracting the hives by division-boards to the requirements of the colonies, cutting passage ways through the combs, and leaving no combs in the hives that contained less than 3 or 4 pounds of honey, and packing the hive in an outer case or house with chaff or dry sawdust, using a chaff cushion over the frames, and leaving the entrance open $\frac{3}{4}$ of an inch by 5 inches, and not allowing it to become clogged with dead bees or ice.

A year ago last fall, being pressed for time, I neglected to unite any small colonies, or to cut passage ways through the combs; but instead, I placed three sticks, $\frac{3}{4}$ of an inch square, across the frames, so as to give the bees a passage way over the combs. In some of the small colonies I contracted the hive by division-boards, and they came through nicely; but the most of them had the whole hive, and some of the combs contained but little honey, and such combs were, in most cases, in the middle of the hive; and some colonies ate all the honey out of these middle combs and one end of the hive, and died on the empty combs with plenty of honey at the other end of the hive. The entrance was open $\frac{3}{4}$ by 5 inches. Loss, 25 per cent.; cause, starvation.

Last autumn I packed my bees in the same way, only the combs containing the most honey at one end of the hive, and contracted the entrance to $\frac{3}{4}$ by 1 inch. I think 2 colonies died by suffocation from the entrance

becoming clogged, and the remainder by starvation, with plenty of honey in the other frames next to them. In some cases they had passed over and taken a little honey from the top of the comb, and then died with plenty of honey just below them. Loss, 25 per cent. From these experiments I draw the following conclusions:

1. That it is better to reduce the size of the hive in the fall, to the size of the colony.

2. That each comb should contain sufficient honey to last what bees cluster on it, until the first or middle of April.

3. That passage ways through the combs are more reliable in cold weather than any other way.

4. That much open-space above the combs is an injury, as bees will sometimes cluster there in cold weather and starve to death with plenty of honey just below them. I do not think they ever move downwards for food when it is too cold for the cluster to break.

5. That it is better to remove those frames that contain much pollen, in the fall, as it is not suitable food for bees in the winter season, and it occupies room that should be filled with honey; but such combs should be returned to the hive in the early spring, so that it might be used up in brood-rearing before they can get a supply from the flowers.

Wellington, Me.

For the American Bee Journal.

Will County, Ill., Convention.

The meeting of the Will County Bee-Keepers' Association was held on May 26, 1884, at Monee, Ill., and was called to order by the president, A. Wicherts. Secretary Nelson being absent, G. Kettering was elected to that office. After roll-call the President read a brief essay about bees and bee-keepers, which was very interesting. The committee reported a constitution and by-laws, which was unanimously adopted.

The following topics relating to bee-culture were then discussed: 1. "Indoor or out-door wintering." 2. "Is it wise to encourage everybody to keep bees?" 3. "Prevention of robbing." 4. "Transferring bees." 5. "The difference between the bright Italian and the leather-colored bee."

The first topic was then discussed, and a majority of the members concluded that they had better success in wintering their bees in a good, dry, ventilated cellar—especially weak colonies and nuclei. However, several preferred out-door wintering if the bees are well protected.

Mr. C. Schreier's opinion on the second topic was, that every man ought to keep bees to produce his own honey. The prevailing opinion was, though we should encourage all to keep bees, we should tell them not only the advantages, but also the disadvantages of bee-keeping.

Concerning the third topic, the President stated that he had a colony which was robbed. He first put a wet bag on the hive, so as to let the

water drop down in front of it, but it had no effect. He then followed the robbers to their own hive, opened it and disturbed some of their combs to make the honey run out of the cells; this gave them work at their own home, and the robbing ceased.

About the fourth topic, all thought it advisable to transfer bees from all box-hives into movable-frame hives.

The prevailing opinion concerning the fifth topic was, that the leather-colored bee is a cross between the Italian and a dark-colored German bee.

The question about deep or shallow frames was discussed at some length. Mr. C. Schreier is altogether in favor of the Langstroth frame, while Mr. A. Wicherts claim that a short, deep frame would be preferable because bees could have more honey above them, and they would winter better. Bees ought to have honey enough above them where they cluster. But as for handling during the honey season, he would prefer a shallow frame.

Mr. W. Cassens was elected Treasurer, and the sum of 25 cents from each member was collected.

The convention then took a short recess. After resuming business again, several new members joined the association. It was decided that the next regular meeting should be held on the first Monday in September, at 1 p. m., in Monee, Ill. After tendering a vote of thanks to Jos. Jordan, for the free use of his Hall, the convention adjourned.

GUSTAVUS KETTERING, Sec.

For the American Bee Journal.

Increasing Colonies by Division.

J. M. HICKS.

It has been many years since I first practiced increasing my colonies of bees by the above method of swarming, and thus saved a great deal of trouble as well as time in waiting for them to swarm at will; which I think is money to the bee-keeper who desires to prosper in the business of keeping bees for profit.

I am well aware that many object to the management of bees on any other than the old style, and say, "let the bees swarm naturally if you would succeed, as did our fathers;" but I desire different success from that of 50 years ago, when we so well recollect how father, mother, and sometimes grandpa as well as grandma frequently came over to show how to hive bees when they should swarm; and of all the whang-to-bang-bangs and jingling of cow-bells, played so as to get the bees to settle, frequently resulting in a total failure. Often the bees would return to the hive from which they came out, and sometimes going off to the woods, for there was plenty of woods here in the Hoosier State about that time, and were thus lost, or failed to cast a swarm at all.

It is a well-known fact, too well established to be misunderstood by any one except an old-time bee-keeper, that two-fifths of the colonies which are allowed to swarm in the old way,

are lost by going to the woods. While it is a well established fact to let the more modern and scientific bee-keeper that a swarm produced by dividing a colony, at the right time, there will be no trouble about losing a swarm, or having them come out and leave the hive.

I think that it is much easier to swing the brood frames out and select such of the brood as is fit for putting into a new hive of the same shape and size (which they should all be); thus making up your new colonies in five to ten minutes. This should be so managed as to come as near to the time when the oldest of the brood would have swarmed had they been left to luck and chance.

But says one old fogey, "How are you going to do all this and not let the bees swarm in the old way?" Truly, this old question is a poser to us; but we must make ready one of our improved hives, just the same as all the bees are in, and we set it by the side of the hive of bees that we think is ready for dividing. We now swing the doors open and take out a frame from the middle of the new hive, then open the strong colony of bees, and swing the brood frames apart carefully, and we find the frame on which the queen is situated. Perhaps she is laying eggs at the rate of a hundred per hour; but we now lift the frame of brood, queen, and adhering bees on the same, and hang it in the new hive in place of the frame just taken out, and then hang the new frame in the old hive, and close up both hives carefully.

Put the new hive with the frame of brood, bees and queen, in the same place where the old hive stood, and move the old hive some distance off to a new location. Now, the work is done, the old colony which would have swarmed, returned to the new hive at the old location, thus strengthening them, and goes to work with a will, already having one sheet of brood, eggs, and the mother-queen as a start in house-keeping.

Battle Ground, Ind.

☞ Cook's Manual in cloth and the Weekly BEE JOURNAL for one year will be sent for \$3. Manual and Monthly, \$2.00. We have no more of the old edition left, and, therefore, the club price of that edition at \$2.75 and \$1.75 is withdrawn.

☞ Do not let your numbers of the BEE JOURNAL for 1884 be lost. The best way to preserve them is to procure a binder and put them in. They are very valuable for reference.

☞ Dzierzon's new work entitled "Rational Bee-Keeping," we now club with the BEE JOURNAL as follows: The Weekly for one year and the book, bound in cloth, for \$3, or in paper covers for \$2.75. The Monthly BEE JOURNAL and the book, \$1 less than the above prices. It is an imported book, printed in the English language, and the price of the book is \$1.50 bound in paper covers, or \$2.00 when bound in cloth.

Local Convention Directory.1884. *Time and place of Meeting.*

- June 19.—Northern Mich. at Ionia.
F. A. Palmer, Sec.
June 20.—Iowa Central, at Winterset, Iowa.
J. E. Pryor, Sec.
Oct. 11, 12.—Northern Mich., at Alma, Mich.
F. A. Palmer, Sec., McBride, Mich.
Oct. 15, 16.—Northwestern, at Chicago, Ill.
W. Z. Hutchinson, Sec.
Nov. 25.—Western Mich., at Fremont, Mich.
Geo. E. Hilton, Sec.
Dec. 3.—Southeastern Mich., at Adrian, Mich.
A. M. Gander, Sec.
Dec. 10, 11.—Michigan State, at Lansing.
H. D. Cutting, Sec., Clinton, Mich.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

SELECTIONS FROM OUR LETTER BOX

Honey-Dew.

There is a dearth of bloom here at present. The first few white clover blossoms just making their appearance. Yesterday I noticed that the bees were working rapidly, darting away with a jump from the entrance, and upon returning they entered at once—there was no loitering. I knew honey must be the field, and I went to find where it could be. I found the bees busily at work on the leaves and some of the twigs of the maples. I send a sample of leaves and twig. There is a sweet substance on the leaves. Is it honey dew? The bees were sucking around the little wart-like protrusions on the twig. What are they? Please answer in the BEE JOURNAL.

W. B. DRESSER.
Hillsdale, Mich., June 2, 1884.

[Yes; it is what is usually called "honey-dew"—which is reported to be quite plenty this season. It is the excretion deposited on the back of the leaves by small insects called aphidæ or vine-fretters. The fecundity of plant lice is almost incalculable. Reaumur supposes that in one year there may be 20 generations; and he has proved by experiments that one of these insects may be the parent of 5,904,900,000 descendants during its life.—ED.]

Honey from White Mustard.

I lost quite a number of colonies in wintering. The honey they gathered late last fall was not good, I think; for it was those which died that fed on late honey; and those which had early spring honey came through in good condition and are doing well now. They have been working on the white mustard bloom for the last two weeks, and some of it has bloom over 8 inches long. It grows about 3 feet high, flourishes best on cultivated land, and is a sure crop twice a year—once for a June, and the next for a

fall crop. I have also a fine lot of Rocky Mountain bee-plant for the bees to work on during July and August. It is a sure crop any where. If sown in the fall it yields fine honey, and keeps in bloom for a long time. My cure for bee stings is alcohol. I always keep a small quantity in the bee-yard and apply a little to the part stung when it prevents any swelling whatever; but I find what will cure bee-stings on one bee-keeper will have no effect on another.

JAS. JARDINE.

Ashland, Neb., June 9, 1884.

Good Work.

The season, although cold till within a few days, has been very promising with me. By slight feeding every night, brood-rearing has been fully kept up, and my colonies are now in No. 1 condition. During the week ending May 31, one colony of pure Italians gathered 72 pounds of honey from apple bloom; and the other colonies produced an average quantity. The prospect is fair now for a good yield from white clover; still we may have it spoiled by a drought. So far in June the weather has been very warm.

J. E. POND, JR.

Foxboro, Mass., June 7, 1884.

Damaging Floods in Texas.

We are having too much rain for bees or anything else. Such floods were not seen here since the days of Noah. Thirty-two inches of water fell in 16 days; and 20 inches of it fell in 48 hours. The farms are washed away, crops are badly damaged, and millions of dollars worth of property destroyed. Railroad bridges are all gone, and the mails are slow. Horse-mint is now blooming, and if we can have nice weather, we will get a fair honey crop this year. I have been looking for a report in the BEE JOURNAL of the Texas Bee-keepers' Association, as it was selected as the bee-paper in which to publish the proceedings. Seventy-one full colonies and 100 3-frame nuclei is my report now.

B. F. CARROLL.

Dresden, Tex., June 4, 1884.

[The report you mention has not, as yet, been received.—ED.]

A Great Loss.

Owing to the extreme drouth of last fall in this section, a large number of colonies of bees starved to death during the past winter and this spring. What few colonies are left, unless they were fed early in the spring, are still weak. White clover was never better. Strong colonies are doing splendidly at present.

WM. ROBSON.

Rolla, Mo., June 9, 1884.

Good Results in Wintering.

My 101 colonies of bees were left on the summer stands, and were fixed up last winter simply by placing sticks across the holes of the tops of the close-fitting 12x12 frames, tucking quilts over the same, contracting the

entrances to the hives, and thus severely letting them alone until May 1. The result is: 95 colonies are in excellent, active condition; 6 died from being out of stores. I do not use the extractor, but work my bees for comb honey exclusively. I feed them no "slops," but winter them on the best ripe, sealed honey. I use no chaff or double-walled hives, and have always succeeded in wintering bees with but little mortality, and to my own entire satisfaction.

H. S. VAN ANGEN.

Waverly, Mo., June 9, 1884.

Those Trembling Bees.

On page 364 of the BEE JOURNAL, a correspondent writes about trembling bees that are killing off small black bees. I have a colony that has been acting in a like manner for a fortnight. I opened the hive and could see these shiny blacks among the Italians on the combs. It appears to me that these little shiny ones originate in the colony which is infested by them. In the Dictionary of Practical Apiculture, recently issued, I find the following: "Robber bees that have lost their hair, and become black and shiny, were supposed by Huber to be a distinct kind of bee; and in several works they are mentioned by the name of black bees." I caught a black one, a few moments ago, and tried to make it sting, but it did not. I tried the same experiment before, and the bee made a very feeble attempt at stinging. I saw the same thing several years ago. The colony thus infested is quite populous, and apparently all right. The query is: Where do the trembling Italians and shiny blacks come from? If they are robbers, why do they not attack weak colonies? Why persist in attacking a strong one for weeks? And, what makes the Italians tremble?

MRS. L. HARRISON.

Peoria, Ill., June 10, 1884.

What and How.

ANSWERS BY

James Heddon, Dowagiac, Mich.

Fastening Foundation in Sections.

Will Mr. Heddon describe as explicitly as possible through "What and How," the manner of using the Parker foundation fastener?

MRS. E. L. SWARTWOOD.

Clearfield, Iowa, June 3, 1884.

ANSWER.—Yes; and I shall be glad to do so. In my estimation this fastener will never be equalled by any other that does not have the sliding-back movement, and any that does is a Parker fastener, is it not? When these machines are turned out from a manufactory, they are not fitted up. The receiver must adjust the screws (if they need it), and see that the bearing is equal on all sides and corners; that the section-rest is added

to or taken from, in accordance with the width of the section. You should have a little board, say 6 or 8 inches square, nailed in front of the fastener as a rest. The fastener is, of course, screwed fast to a solid table or bench. Tack rests on this little board near the fastener, to guide the section quickly to place, and keep it from moving to the right, left, or from you.

We have also made "ways" or guides for adjusting the side-wise position of the sheet of foundation. We also may have one to adjust its position regarding the amount of wax we mash down, provided that the pieces of foundation are all of one size. We do not value the "ways" for the foundation very highly, and seldom use them, as our eye and nerve adjusts it very quickly without any guides. See that the edge of the upper piece that does the mashing is coated with honey every few sections. Have the honey diluted about half-and-half with water. This honey can be applied with the fore-finger, or a little stick. After a while the fastener will not stick if lubricated every 20 or 30 sections. Set it so that the edge of the masher will over-reach the centre of the narrow piece of the section about 1-16 of an inch when pushed down and forward all it is capable of reaching. Then having the section and about $\frac{1}{4}$ of an inch margin of the foundation under the masher, lift up on the lever quickly and powerfully, and the foundation is fastened much firmer than can be done by melting it on to the wood. After all this talk about a 25-cent machine, I presume that it is still not clear to those who have never used one.

Establishing Apiaries.

1. I am establishing two new apiaries of 75 colonies each, and wish to ask Mr. Heddon whether the apiary grounds should be sown to lawn grass, white clover, or what?
2. How near to the apiary should the honey-house be, and on which side? or should it be in the centre?
3. How far apart each way should the hives be placed? and should the apiary be hexagonal in form?
4. Is sugar syrup equally as good as honey for brood-rearing?

F. M. CHENEY.

ANSWERS.—1. The color, green, is best fitted to the eyes. On some other accounts the lawn grass is best of any thing for an apiary carpet. Where there is no special danger to be apprehended from fire, I prefer the ground perfectly clean from all vegetation, and covered with 2 or 3 inches of sawdust, and kept so with a basket and hoe. Next to this I choose the lawn, and in that case I desire the sawdust about and under the stands of the hives, for it is very difficult here to keep down the grass too close to the hives to use the scythe or lawn mower.

2. This depends upon the amount of natural swarming expected. Where there is but little, I prefer the honey-house in the centre of the apiary; where there is much, I wish it at one

side. In this latter case, your bees cannot swarm "over on the opposite side of the house" entirely, or, for some time, unobserved. It also enables you to drive close to the house. If you are running for extracted honey, the central location has more advantages than if running for comb. I would decide according to the above conditions.

3. I prefer rows about 6 to 8 feet apart, and the hives placed about 8 to 10 feet apart in the rows, alternating with each other thus:

and all fronting the east. I should care nothing for the form or outline shape of the whole apiary, which would most economically be square and filled with hives. I prefer and use a high board fence all around the apiary, and two strands of barbed fence-wire just above this.

4. I think not, for the same reason that it is so much better winter food. It lacks the nitrogenous element which clogs the intestines of the old bees during cold and confinement, and which is so eminently adapted to the growth of animal tissue, as in case of brood-rearing, where the bees can gather plenty of pollen, with that it works nicely; but when pollen is scarce, I should prefer honey.

Apiaries near Highways.

1. How near to the road can an apiary be located without danger to the traveling public?
2. Does the law establish the distance bees should be kept from the highway?
3. If the bees should attack a team in passing, and cause them to run away, resulting in injury to themselves and driver, would the apiarist be liable?
4. How near to the road are your bees?

CHAS. SITTS—18.

Brasie Corners, N. Y., June 3, 1884.

ANSWERS.—1. The actual distance depends upon two conditions: the disposition of the bees, and what fixtures may be between the road and the bees. I never had any trouble with a large apiary 3 rods away, with a tight board fence 6 feet high between.

2. I am not aware whether the law of any State does, or does not.

3. I feel quite sure that he would, if it was evident that the attack came about because the bees considered the team too close to their home and stores; for in that case the apiary is too close to land not owned and controlled by the apiarist.

4. The fence (8 feet high) of one of my apiaries is on the road line, but the bees therein, from breeding and management, are but little inclined to sting, though they are nearly all hybrids. The last time I was there, I led my horse twice through the apiary, close up to several of the hives, when the horse was warm, the day hot, and the bees were robbing; but he received no stings, though I knew we were taking the risk of a javelin, but

one would not have done much harm. My other apiary here is away from all other lands.

Honey and Beeswax Market.

OFFICE OF THE AMERICAN BEE JOURNAL.
Monday, 10 a. m., June 16, 1884.

The following are the latest quotations for honey and beeswax received up to this hour:

CINCINNATI.

HONEY.—The demand for all honey is very slow; market dull and prices range from 6@8c for extracted. Different lots of choice comb honey in small sections have been offered and sold in our market lately at 12@14c per lb. As I predicted some time ago, the preference for the production of comb honey seems to be prevalent; and, as we have the best prospects for an abundant harvest this year, we may prepare for low prices.

BEESWAX.—Is in good demand; choice yellow brings 35c a lb. on arrival. CHAS. F. MUTH.

NEW YORK.

HONEY.—Present quotations are as follows: Fancy white in 2-lb. sections, glassed, 13@14c; fair to good in 2-lb. sections, glassed, 11@13c; dark grades in 2-lb. sections, glassed, 10@12c. No 1-lbs. in this market.

BEESWAX.—Scarce, and sells readily at 36@38c. MCCAUL & HILDRETH, 34 Hudson St.

BOSTON.

HONEY.—The sale of honey is almost over, and we are obliged to sell 2-lb. combs for 15c, and 2½-lbs. to 2½-lbs. from 10@12c. No 1-lbs. in the market. Extracted, 8@10c.

BEESWAX.—35c. BLAKE & RIPLEY, 57 Chatham Street.

CHICAGO.

HONEY.—Choice white comb honey in 1 lb. sections brings 18c; in 1½ to 2 lb. sections, quotable at 16c. Comb honey discolored and in undesirable shape is selling at 10@12c. Extracted honey is in light demand at 6@8c. Manufacturers of syrups and bakers say that the low price of sugar is the reason why they do not use as much honey as formerly. There is very little desirable comb honey on the market.

BEESWAX.—Is scarce and fancy yellow brings 38c. Good, beeswax, but dark, and having more or less of refuse matter in it, quotable at 30@33c.

R. A. BURNETT, 161 South Water St.

SAN FRANCISCO.

HONEY.—A little new extracted is on the market, but is not receiving much attention, buyers being rather timid. Several small lots of old extracted arrived within the week, mainly of quality, and the same are offering at low figures. Some very choice old extracted was sold at 7c., which is at present an extreme figure. The demand is very light, and the tone of the market weak. White to extra white comb, 15@18c; dark to good, 10@13c; extracted, choice to extra white, 6½ to 7c; dark and candied, 4@5c.

BEESWAX.—Wholesale, 27½@30c. STEARNS & SMITH, 423 Front Street.

KANSAS CITY.

HONEY.—The season has now practically closed, little or nothing being done in comb honey, and prices entirely nominal. Extracted quiet at 7@8c. One lot, about 5,000 lbs. new honey, received from the South this week, and partly sold at 7c. It is dark but of fairly good flavor.

BEESWAX.—I have a little that I am holding at 35@40c, according to the quality. JEROME TWICHELL, 514 Walnut Street.

ST. LOUIS.

HONEY.—Steady; demand and supply both small. Comb, 12@14c per lb., and strained and extracted 6@8c.

BEESWAX.—Firm at 32@32½c. for choice. W. T. ANDERSON & CO., 104 N. 3d Street.

CLEVELAND.

HONEY.—The honey market is fairly active on best white 1 lb. sections at 18c; 2 lbs. best white not quite so active at 17c; 1 lb. sections sell quickly on arrival, and often are sold to arrive. Second qualities continue very dull—are hardly salable at any price. Extracted is not wanted.

BEESWAX.—Scarce at 35c. A. C. KENDEL, 115 Ontario Street.

SAN FRANCISCO.

HONEY.—We quote comb honey in 2 lb. sections, 18@20c; extracted, 7½@8c.

GEO. W. MEADE & CO., 213 Market St.

Ribbon Badges, for bee-keepers, on which are printed a large bee in gold, we send for 10 cts. each, or \$8 per 100.

Special Notices.

Examine the Date following your name on the wrapper label of this paper; it indicates the end of the month to which you have paid your subscription on the BEE JOURNAL.

For safety, when sending money to this office get either a post office or express money order, a bank draft on New York or Chicago, or register the letter. Postage stamps of any kind may be sent for amounts less than one dollar. Local checks are subject to a discount of 25 cents at Chicago banks. American Express money orders for \$5, or less, can be obtained for 5 cents.

We wish to impress upon every one the necessity of being very specific, and carefully to state what they desire for the money sent. Also, if they live near one post office, and get their mail at another, be sure to give us the address we already have on our books.

When writing to this office on business, our correspondents should not write anything for publication on the same sheet of paper, unless it can be torn apart without interfering with either portion of the letter. The editorial and business departments are separate and distinct, and when the business is mixed up with items for publication it often causes confusion. They may both be sent in one envelope but on separate pieces of paper.

It must be understood that, should an advertiser desire to cancel an unexpired contract, he can do so only by paying regular rates for the number of insertions his advertisement has had.

All money orders from foreign countries, should be made payable at Chicago, as the "Madison Street Station" is not an International office.

In reply to many correspondents let us say that we take any kind of postage stamps at their face value—including the 3 cent ones. Silver should never be sent by mail, as it endangers the loss of the letter either by thieves, or else breaks through the envelope and is lost in that way.

We carefully mail the BEE JOURNAL to every subscriber, but should any be lost in the mails we will cheerfully send another, if notified before all the edition is exhausted.

Subscription Credits.—We do not acknowledge receipt of each subscription by letter. The label on your paper, or on the wrapper shows the date to which your subscription is paid. When you send us money, if the proper credit is not given you, within two weeks thereafter on your label notify us by postal card. Do not wait for months or years, and then claim a mistake. The subscription is paid to the end of the month indicated on the wrapper-label. This gives a continual statement of account.

Advertisements intended for the BEE JOURNAL must reach this office by Saturday of the previous week.

GETTING UP CLUBS.

To increase the number of readers of the BEE JOURNAL, we believe, will aid progressive bee-culture and help to elevate the pursuit. We, therefore, offer the following premiums for getting up clubs:

While no subscription to the BEE JOURNAL will be taken for less than the regular advertised prices (viz.: Weekly, \$2.00; Monthly, \$1.00),—any one getting up a club of two copies, or more, may select from "OUR BOOK LIST" anything therein named, to the amount of 15 cents for every dollar they send direct to this office, to pay them for the trouble of getting up the club; and these books will be sent, postpaid, to any address desired.

For a club of 3 Weekly or 6 Monthly and \$6.00, we will make an additional present of a Pocket Dictionary, bound in cloth, containing 320 pages.

For a club of 5 Weekly or 10 Monthly, (or a mixed club of both,) with \$10, we will, in addition to the 15 per cent, present a copy of the AMERICAN "POPULAR" DICTIONARY, comprising every word in the English language that enters into speech or writing; it contains 32,000 words and phrases, 670 illustrations and 512 pages; it is nicely bound in cloth, and will be sent by mail, postpaid, to any address desired.

Subscriptions for two or more years for one person, will count the same as each year for a different person.

Apiary Register—New Edition.

All who intend to be systematic in their work in the apiary, should get a copy and commence to use it. The prices will hereafter be as follows:

For 50 colonies (120 pages).....	\$1 00
" 100 colonies (220 pages).....	1 25
" 200 colonies (420 pages).....	1 50

The larger ones can be used for a few colonies, give room for an increase of numbers, and still keep the record all together in one book, and are therefore the most desirable ones.

Honey as Food and Medicine.

A pamphlet of 16 pages giving Recipes for Honey Medicines, all kinds of cooking in which honey is used, and healthful and pleasant beverages.

We have put the price still lower, to encourage bee-keepers to scatter them far and wide. Single copy 5 cents, postpaid; per dozen, 40 cents; per hundred, \$2.50. 500 will be sent postpaid for \$10.00; or 1000 for \$15.00. On orders of 100 or more, we will print, if desired, on the cover-page, "Presented by," etc., (giving the name and address of the bee-keeper who scatters them). This alone will pay him for all his trouble and expense—enabling him to dispose of his honey at home, at a good profit.

To give away a copy of "Honey as Food and Medicine" to every one who buys a package of honey, will sell almost any quantity of it.

Convention Hand-Book.

It is a nice Pocket Companion for bee-keepers. It is beautifully printed on toned paper, and bound in cloth—price 50 cents.

It contains a copy of a model "Constitution and By-Laws" for the formation of Societies for Bee-Keepers—a simplified manual of Parliamentary Law and Rules of Order for the guidance of officers as well as members, a blank form for making statistical reports—a Programme of questions for discussion at such meetings—model Premium Lists for Fairs which may be contracted or enlarged, and then recommended to the managers of adjacent County or District Fairs—32 blank leaves for jotting down interesting facts, etc.

We have aimed to make it suitable for any locality, and a book that will commend itself to every bee-keeper in the English-speaking world.

We have had some bound in Russia leather, with colored edges—price 60 cents.

We will supply them by the dozen at 25 per cent. discount, post-paid.

What they Say of it:

From Prof. A. J. Cook, Lansing, Mich.—"I have greatly to thank you for getting up the exquisite little Convention Hand-Book. Surely the old 'saying' is true—being a thing of beauty, it ought to be a joy forever."

From Mr. A. I. Root, Medina, O.—"Send me — dozen of the Convention Hand-Books. We have had quite a number of inquiries for something of that sort, and yours seems to be quite nicely gotten up, and just what is wanted."

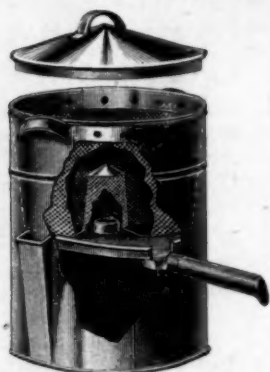
From J. E. Pond, Jr., Foxboro, Mass.—"The Convention Hand-Book is just the thing. The digest of Parliamentary Rules it contains will prove of great value to every one. I trust it will receive the patronage it so well deserves."

From Mrs. L. Harrison, Peoria, Ill.—"The Bee-Keepers' Convention Hand-Book is a gem. It should be in the hands of every one who attends a bee-convention, and then there will be no need of embarrassment on account of ignorance of Parliamentary Rules. Accept my thanks for sample sent."

From G. M. Doolittle, Borodino, N. Y.—"I am in receipt of the new Convention Hand-Book, and must congratulate you on the happy thought of such a work, and the neat appearance of the book. It is a work you may well be proud of, both as to the matter it contains, and the splendid material used in its make-up. It will meet a long-felt want; and, were it so that I could attend conventions as in former years, ten times the price would not seem too much to pay for it, for by the instruction therein given, any man could be kept from many a blunder, much to his mortification. I hope in the near future to again be at liberty to go to conventions, when I shall prize the work very highly."

James Heddon, Dowagiac, Mich., writes:—"The Bee-Keepers' Convention Hand-Book is received. I saw it advertised, but conceived no approximate idea of its great value to bee-keepers attending conventions, until I perused it. Many times the price of my copy would be no temptation for me to do without it. It will make us all want to talk at once, I fear. You deserve the thanks of all, and I herewith tender mine for this helper."

EXCELSIOR WAX EXTRACTOR



The advantages of this Extractor are:

1. It is more easily operated, there being no necessity for removing the top to refill with water.
2. It melts quicker, because the wax is brought into a more direct contact with the steam.
3. It is more economical, because the steam has access to the center, thereby extracting all the wax from the refuse matter.
4. The filler for water acts also as an indicator as to the amount of water in the boiler, as when the steam escapes through the filler, more water will be required.

Keep a kettle of hot water ready to fill when required. We make two sizes, the smaller one having a larger capacity than the Swiss Wax Extractor.

Price, small size, \$4.00—large size, \$5.00.

ALFRED H. NEWMAN,
923 West Madison St., CHICAGO, ILL.

BE SURE

To send a Postal Card for our Illustrated Catalogue of **APIARIAN SUPPLIES** before purchasing elsewhere. It contains illustrations and descriptions of everything new and valuable needed in an apiary at the lowest prices. Italian Queens and Bees. Parties intending to purchase Bees in lots of 10 colonies or more, are invited to correspond.

J. C. SAYLES,
51D154 1B3t HARTFORD, WIS.

SMITH & SMITH

Want to give away 5,000 of their Illustrated Catalogue and Price List of **Bee-Keepers' Supplies**. Special Attention given to the

Simplicity One-Piece Section,

Also Hives, Smokers, Foundation, etc.

SMITH & SMITH,

6D10t KENTON, Hardin Co., OHIO.

Bees! Queens! Nuclei!

INSTRUCTION IN BEE-KEEPING.

BEES.—I offer For Sale 100 colonies of Italian Bees, in good, new, well-painted Hives, Gallop Frames, 12 frames to a hive; every comb straight and good; most of the combs built on foundation. One colony, \$9.00; 10 or more colonies, \$8.00 each.

QUEENS.—I breed Queens by the best methods and from the best stock. Queens ready after May 20th. Untested, \$1.00; tested, \$2.00; selected tested, \$3.00.

NUCLEI, with untested Queen, \$3.50; with tested Queen, \$4.50; with selected tested Queen, \$5.50.

INSTRUCTION.—July 7, 1884, I shall begin instructing a class in bee-keeping—class for men and women. Full course in Theory and Practice. For Circulars of information as to this class, and Price List of Hives, Frames, Sections, Implements, Books, etc., address,
O. CLUTE,
10D1t IOWA CITY, IOWA.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column

BEE-KEEPERS' GUIDE;

Or, MANUAL OF THE APIARY.

11,000 SOLD SINCE 1876.

12th Thousand Just Out!

11th Thousand Sold in Just Four Months!

2,000 Sold the past Year.

More than 50 pages, and more than 50 fine illustrations were added in the 8th edition. The whole work has been thoroughly revised, and contains the very latest in respect to bee-keeping. It is certainly the fullest and most scientific work treating of bees in the World. Price, by mail, \$1.25. Liberal discount to dealers and to clubs.

A. J. COOK, Author and Publisher.
State Agricultural College, LANSING, MICH.
18C7t 20D12t

Syrian & Italian Queens

BY RETURN MAIL.

Tested, \$2.50 each. Untested, Single Queen \$1.00. Six for \$5.50. Twelve for \$10.00. Cook's Manual (cloth) with order for Queens, only 90 cents. Safe arrival guaranteed.

I. R. GOOD,

23D1t SPARTA, TENN.

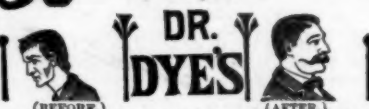
GIVEN COMB FOUNDATION

And Choice Queens a Specialty.

Circulars and samples free. Send for them. It will pay you to do so, before ordering elsewhere. Wax worked on the Given Press for 10 to 20 cts. per lb., according to the number of square feet to the pound.

G. H. KNICKERBOCKER,
23eow1t PINE PLAINS, N. Y.

30 DAYS' TRIAL



DR. DYE'S
(BEFORE) (AFTER)
ELECTRO-VOLTAIC BELT and other **ELECTRIC** APPLIANCES are sent on 30 Days' Trial TO MEN ONLY, YOUNG OR OLD, who are suffering from NERVOUS DEBILITY, LOST VITALITY, WASTING WEAKNESSES, and all those diseases of a PERSONAL NATURE, resulting from ABUSES and OTHER CAUSES. Speedy relief and complete restoration to HEALTH, VIGOR and MANHOOD GUARANTEED. Send at once for Illustrated Pamphlet free. Address
VOLTAIC BELT CO., Marshall, Mich.

6D1y

COMB FOUNDATION MILLS.

The "Best" and "Cheapest" in the market. Send for Sample and Price List free.

PAUL SPOERKE, Fond du Lac, Wis.
14D1t

For Bees, Queens.

Honey, Foundation, Hives, Sections, and all Apiarian Implements, send for Circular to

FLANAGAN & ILLINSKI,

1AB1y Lock box 995, Belleville, St. Clair Co., Ills.

LOCAL REPORTERS WANTED.

We want a local reporter in every farming community to furnish us from time to time such facts as we may require. Full particulars regarding services, compensation, etc., will be furnished on application. Address Will C. Turner & Co., Publishers
"City and Country," Columbus, Ohio.
24A18t

Early Italian Queens!

IMPORTED AND HOME-BRED.

Nuclei and full colonies. Bees bred both for **BUSINESS and BEAUTY.** Dunham and Vandervoort **FOUNDATION** a specialty. If you need Queens, Bees, Hives, Foundation or Supplies, send for my Catalogue and Price List. Address,
J. P. H. BROWN,
12D8t 4B4t AUGUSTA, GA.

IF YOU WANT

—A— VEHICLE,

SEND A POSTAL CARD TO THE

COLUMBUS BUGGY CO.

COLUMBUS, OHIO.

When Catalogue and name of nearest dealer, where our **SUPERIOR** Vehicles can be seen, will be sent.

We have the **LARGEST FACTORY** in the world for manufacturing first-class and **SUPERIOR**

Buggies, Phaetons, Light Carriages, Surrey Wagons,



AND OUR POPULAR

American Village Carts,

the latter most perfect and free from horse motion.

We make our own wheels from the best timber (sawed by our own mills) that can be obtained from the hills of Southern Ohio—famous for the second-growth hickory.

Any of our readers who will inclose 15 cent stamps, in a letter to the **COLUMBUS BUGGY CO.**, Columbus, Ohio, will receive in return a beautiful engraving in colors representing an "Australian Scene," and their manner of traveling in that country with ostriches as a motor. 24A18t

DR. FOOTE'S HAND BOOK OF HEALTH,

HINTS AND READY RECIPES.

is the title of a very valuable book that gives a great amount of information, of the utmost importance to Everybody, concerning their daily habits of Eating, Drinking, Dressing, Sleeping, Bathing, Working, etc.

It Costs only **TWENTY-FIVE CENTS**, and contains 28 pages, and is sent by mail, post-paid, on receipt of price. This is just the Book that every family should have.

IT TELLS ABOUT

What to Eat,	Parasites of the Skin,
How to Eat it,	Bathing—Best way,
Things to Avoid,	Lungs & Lung Diseases,
Perils of Summer,	How to Avoid them,
How to Breathe,	Clothing—what to Wear,
Overheating Houses,	How much to Wear,
Ventilation,	Contagious Diseases,
Influence of Plants,	How to Avoid them,
Occupation for Invalids,	Exercise,
Superfluous Hair,	Care of Teeth,
Restoring the Drowned,	After-Dinner Naps,
Preventing Near-Sightedness,	Headache, cause & cure,
	Malaria! Affections,
	Croup—to Prevent.

IT TELLS HOW TO CURE

Black Eyes, Bolls, Burns, Chills, Colds, Cold Feet, Corns, Coughs, Cholera, Diarrhoea, Diphtheria, Dysentery, Dandruff, Dyspepsia, Ear Ache, Felons, Fetid Feet, Freckles, Headache, Hiccough, Hives, Hoarseness, Itching, Inflamed Breasts, Iry Poisoning, Moles, Pimples, Piles, Rheumatism, Ringworm, Snoring, Stammering, Sore Eyes, Sore Mouth, Sore Nipples, Sore Throat, Sun-stroke, Stings and Insect Bites, Sweating Feet, Toothache, Ulcers, Warts, Whooping Cough, Worms in Children.

It will Save Doctor Bills!

Price only 25 Cents. Sent by Mail, post-paid, by

THOMAS G. NEWMAN,

925 West Madison Street, CHICAGO, ILL.

HELLO! HELLO!

We are now ready to Book Orders for
Bee-Keepers' Supplies.

White Poplar
Dovetailed
SECTIONS
A
Specialty.

Everything fully up with the times, and
At Lowest Figures!

Send stamp for 32-page Catalogue and Samples.

APIARIAN SUPPLY CO.,

7A6m WILTON JUNCTION, IOWA.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

Vandervort Comb Fdn. MiHs,

Send for Samples & Reduced Price-List.

ABtf **J. VANDERVORT, Laceyville, Pa.**

GOLD

for the working class. Send 10 cents for postage, and we will mail you free, a royal, valuable box of sample goods that will put you in the way of making more money in a few days, than you ever thought possible at any business. Capital not required. We will start you. You can work all the time or in spare time only. The work is universally adapted to both sexes, young and old. You can easily earn from 50 cents to \$5 every evening. That all who want work may test the business, we make this unparalleled offer; to all who are not well satisfied, we will send \$1 to pay for the trouble of writing us. Full particulars, directions, etc., sent free. Fortunes will be made by those who give their whole time to the work. Great success absolutely sure. Don't delay. Start now. Address STINSON & Co., Portland, Maine.

4Aly

How to Prevent Swarming.

Send for our 23d annual Circular for particulars.

18Atf **HENRY ALLEY, Wenham, Mass.**

FLAT-BOTTOM**COMB FOUNDATION.**

high side-walls, 4 to 16 square feet to the pound. Circular and samples free.

J. VAN DEUSEN & SONS,
Sole Manufacturers,
Sprout Brook, Mont. Co., N. Y.

\$66

a week at home. \$5.00 outfit free. Pay absolutely sure. No risk. Capital not required. Reader, if you want business at which persons of either sex, young or old, can make great pay all the time they work, with absolute certainty, write for particulars to H. HALLETT & Co., Portland, Maine.

4Aly

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

Muth's Honey Extractor,

Square Glass Honey Jars, Tin Buckets,
Langstroth Bee-Hives, Honey-Sections, etc.

Apply to **C. F. MUTH,**

976 and 978 Central Ave., CINCINNATI, O.

Send 10c. for Practical Hints to Bee-Keepers.

BOYS AND GIRLS!

YOUNG AMERICA, a large light page 32-column illustrated 50 cent Monthly, free one year to all that enclose this advertisement to us now with 15 cents. Sure to please all Boys and Girls. Address,

YOUNG AMERICA,

24A2t Lock box 675, Canal Dover, Ohio.

1884. **JOSEPH D. ENAS, 1884.**

(Sunny Side Apiary.)

Pure Italian Queens, Bees, Colonies, Nuclei, EXTRACTORS, COMB FOUNDATION, &c.

24D10t Address, Sunny Side Apiary, NAPA, CAL.

**STORY & CAMP,**

Manufacturers and Wholesale Dealers in

PIANOS AND ORGANS

**Decker Bros.,
Haines Bros.,
Mathushek,
Simpson & Co.,
Story & Camp.**

**Estey,
Story & Camp.**

The largest exclusively
Piano and Organ house
on the Continent.

Territory given. **Agents Wanted.** Protection guaranteed.

Catalogues free to any address.
Write for our prices before buying elsewhere.

STORY & CAMP,

188 & 190 State Street,

CHICAGO.

203 N. Fifth Street,

ST. LOUIS.

Bingham Corner.

WOODARD'S LANDING, Wash. Ter.
The Best Smoker.—To BINGHAM & HETHERINGTON, Abronia, Mich., Dear Sirs:—Find enclosed money for 3 Conqueror Smokers, which please send per mail—one to each, Dr. Balch, J. M. Louderback, and H. A. Towner. The Conqueror is the best Smoker I ever used. Respectfully,
May 17, 1884. H. HASTINGS.

DRESDEN, TEX., May 28, 1884.
Conquer the "Cyps."—T. F. BINGHAM, Abronia, Mich., Dear Sir:—Enclosed find \$1.75, for which please send, per mail, one "Conqueror Smoker" to Major H. A. High, Waxahachie, Tex. He bought a Cyprian Queen from me, and the Bees have worsted the old gentleman. I told him that the Conqueror Smoker would conquer the "Cyps," as I had tried one for two years, and "it never failed." Respectfully,
B. F. CARROLL.

BORODINO, N. Y., Aug. 15, 1882.
Cyprians Conquered.—All summer long it has been "which and tother" with me and the Cyprian colony of bees I have—but at last I am "boss." Bingham's Conqueror Smoker did it. If you want lots of smoke just at the right time, get a Conqueror Smoker of Bingham. Respectfully,
G. M. DOOLITTLE.

Prices, by mail, post-paid.

Doctor smoker (wide shield).....	3½ inch.....	\$2 00
Conqueror smoker (wide shield).....	3 ".....	1 75
Large smoker (wide shield).....	2½ ".....	1 50
Extra smoker (wide shield).....	2 ".....	1 25
Plain smoker.....	2 ".....	1 00
Little Wonder smoker.....	1¾ ".....	65
Bingham & Hetherington Honey Knife,	2 inch.....	1 15

TO SELL AGAIN, apply for dozen or half-dozen rates. Address,

**T. F. BINGHAM, P. M., or
BINGHAM & HETHERINGTON,**

ABRONIA, MICH.

DOUGHERTY & MCKEE,

Indianapolis, Ind.,

Manufacturers of and Dealers in **BEE-KEEPERS' SUPPLIES and HONEY.** Langstroth HIVES a Specialty. Dadant's Foundation, Bingham Smokers, Wired frames and Foundation from the Given Press, Sections, Extractors and Honey Jars. Send for our Price List. 14A26t

GIVEN FOUNDATION.—As I have purchased a Given press, I will make Foundation on the same, this season. Will take Beeswax in exchange for Foundation or work it up for two-fifths. 23D4t **A. WORTMAN, Seaford, White Co., Ind.**

Rise in Prices of Foundation

The prices of Comb Foundation are NOW advanced two cents per pound from the quotations in our retail Price List, and three cents, per pound, at wholesale.

CHAS. DADANT & SON,
23ABtf Hamilton, Hancock Co., Ills.

BEE-KEEPERS, before ordering your

APIARIAN SUPPLIES,
Send for our large Illustrated Catalogue, sent free to any address.

10A24t **E. KRFTCHMER, Coburg, Iowa.**

Given's Foundation Press.

PUBLIC SENTIMENT affirms that the **PRESS** is **SUPERIOR** for making Comb Foundation either in Wired Frames or for **SECTIONS**, and insures straight and perfect combs, when drawn out by the bees. Send for Circular and samples.

D. S. GIVEN & CO.,
1ABtf HOOPESTON, ILL.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

ALFRED H. NEWMAN,

Dealer in all kinds of

APIARIAN SUPPLIES,

AND
HONEY AND BEESWAX,

923 West Madison Street,

CHICAGO, ILL.

MY ILLUSTRATED CATALOGUE
sent FREE upon application.

COMB FOUNDATION.

On account of the prevailing scarcity of beeswax the price of comb foundation is now advanced 5 cents per pound above the price quoted in my Catalogue for 1884. Prices same as Dadant's.

BEE SWAX.

I pay \$4c. per pound delivered here, for yellow Beeswax. To avoid mistakes, the shipper's name should always be on each package.

NEW AND USEFUL

Articles for the Apiary

Send for our 16-page illustrated Circular. 18Atf **HENRY ALLEY, Wenham, Mass.**

1868. 1884.
HEDDON'S
 COLUMN.

BEST GIVEN
COMB FOUNDATION.

Wholesale and Retail.

I now have on hand a freshly-made lot of GIVEN COMB FOUNDATION, made from strictly pure domestic wax, thoroughly cleansed from all impurities. Sizes of brood and surplus, $8\frac{1}{4} \times 16\frac{1}{4}$, or Langstroth size. I have also Dadant's best Brood Foundation of same size; also Dadant's 11x11 for American frames. Send for prices, and state amount wanted. I offer a liberal DISCOUNT to DEALERS.

HEDDON'S LANGSTROTH HIVE.

I believe my Hive is growing in popularity, to a much greater degree, than is the business of bee-keeping. I am now prepared to furnish these hives made up, and in the flat, at very reasonable prices.

One Hive complete for comb honey..\$3.00

(The above will contain two cases complete with sections).

The above Hive complete for extracted honey.....\$3.00

The above Hive complete for both in one.....4.50

One Hive in the flat.....2.00

Five or over, each.....1.50

No one should ever order these Hives in the flat, without ordering one made up complete to work by. Parties are advertising Hives as Heddon Hives, that in no wise embrace my principles. Judge only by those purchased from me.

SECTIONS.

I am now ready to furnish white all-Dovetail Sections as follows: $4\frac{1}{4} \times 4\frac{1}{4} \times 6$, 7 and 8 to the foot, per 1,000, \$6.50; $5 \times 6 \times 2$, per 1,000, \$8.00. All shipped from here.

STUDENTS OF APICULTURE

Will receive terms for 1884 on application.

BEES and QUEENS.

If you contemplate the purchase of Bees in any shape, tested or untested Queens, it may pay you to send for my

CIRCULAR for 1884

And be SURE to state whether or not you have my Circular for 1883.

Address,

JAMES HEDDON,
 DOWAGIAC, Cass County, MICH.

Sixth Thousand Just Published!

New and Enlarged Edition

OF
BEES and HONEY,

OR THE

Management of an Apiary for Pleasure and Profit; by

THOMAS C. NEWMAN.

Editor of the Weekly Bee Journal.

925 West Madison Street, Chicago, Ill.

It contains 220 profusely illustrated pages, is "fully up with the times" in all the improvements and inventions in this rapidly developing pursuit, and presents the apiarist with everything that can aid in the successful management of the Honey Bee, and at the same time produce the most honey in its best and most attractive condition.

Appreciative Notices.

FRIEND NEWMAN:—I acknowledge with pleasure the receipt, this morning, of a very beautiful book, entitled, "Bees and Honey, or, Management of an apiary for Pleasure and Profit; sixth edition, enlarged." The book opens with a kind, familiar face, and the whole subject matter is concise, easy and comprehensive. I read it with much pleasure. T. F. BINGHAM.
 Abonia, Mich., May 1, 1884.

I have received a copy of the revised edition of "Bees and Honey," and after examining the same, find it to be a very handy and useful book of reference on the subject of bees and honey, and believe it should be found in the library of all interested in the study of bees.

H. H. BROWN.

Light Street, Pa., May 8, 1884.

PRICE—Bound in cloth, \$1.00; in paper covers, 75 cents, postpaid.

THOMAS G. NEWMAN,

925 West Madison Street, Chicago, Ills.

A Liberal Discount to Dealers by the Dozen or Hundred.

WE CALL

the attention of all wanting A No. 1 BEES, Italian, Cyprian or Hybrids, to the following, from one well-known to the readers of this Paper:

"I have never seen a case of foul brood; my bees are entirely healthy, and have always been so, and are O. K. in every respect."
 GEO. B. PETERS, M. D.

We can furnish any number of Colonies of the above Bees, and will warrant safe delivery and satisfaction.

N. B.—No Bees will be sold by us, for any consideration, from any apiary that has ever had a case of foul brood in it. For prices and particulars, send to:

FLANAGAN & ILLINSKI,

Lock box 995, Belleville, St. Clair Co., Ills.
 18A13t 6B3t

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

A NEW BEE VEIL.



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